

RS232 dongle Plug & Scan User Guide

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SUMMARY

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Revision History

Changes to the original manual are listed below.

Document	Date	Description
3.27.1	30 Jun 08	Initial release
3.27.2	08 Jul 08	added schemes and transparent mode description
3.27.3	06 Aug 08	added Hardware description section
3.27.4	14 Aug 08	Modify the Batch section
3.28	27 March 09	Add DualRunners
3.28.2	17 April 09	Modify "Hardware Description" section

1. Introduction

This document concerns the RS232 dongle Plug & Scan v3.28 (see “Print Firmware Version” section for how to get the firmware version).

The RS232 Plug & Scan dongle is a connectivity solution and allows to simplify the connection between the Baracoda scanners and all laptops, PCs, Tablet PCs, or all devices equipped with a RS232 COM port.

The Baracoda RS232 Plug & Scan dongle has the Bluetooth drivers and the Bluetooth application embedded in the RS232 device. **This configuration avoids the installation of the drivers and the software for the end-user.**

The RS232 Plug & Scan solution allows users to have an acknowledgement beep, automatic reconnection, and bufferisation of the incoming barcode data. Bufferisation of the barcode data allows the Baracoda scanner to store incoming barcodes even when the scanner is not connected to the dongle (this is the ‘No data loss mode’)

Simply plug the RS232 Plug & Scan dongle in your computer, scan a “connect barcode” with a Baracoda barcode scanner, and the Bluetooth connection will be automatically established.

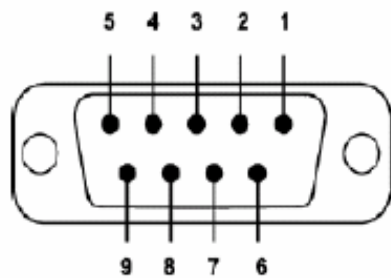
NOTE:

Please note that the BaracodaManager software for PC does not work with Plug & Scan solutions.

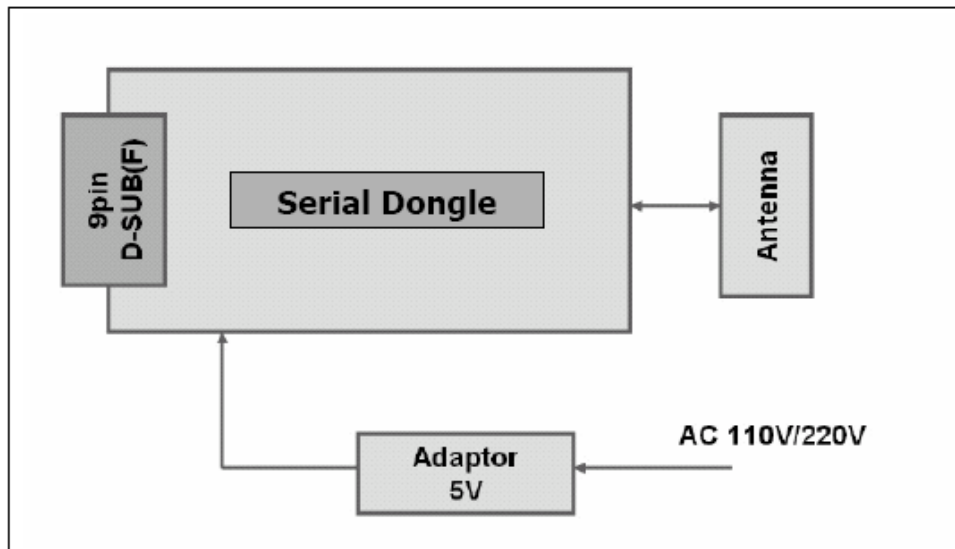
2. Technical Introduction

2.1. Hardware description

Baracoda Serial Dongle has a 9-PIN SUB-D female (DCE) connector as shown in the Figure below.



Pin n°	SIGNAL
Pin 1	NC
Pin 2	TxD
Pin 3	RxD
Pin 4	NC
Pin 5	Gnd
Pin 6	NC
Pin 7	CTS
Pin 8	RTS
Pin 9	5 Volt



Block diagram

3 ways available to power on the RS232 dongle Plug&Scan:

- With its External Power Adaptor.
- On the PIN9 of the RS232 connector if the Terminal gives 5V on this PIN.
- With its USB Power Adaptor ("option not included with the product, please contact our Sales Department to buy this accessory).

Note: The 4 switches available on the front casing are not used to configure the RS232 dongle adapter. So you can let all switches to OFF.

2.2. Scanner Status - dongle Link

The Plug & Scan dongle is only able to establish point-to-point connections. This means that the dongle cannot connect simultaneously to more than one device.

The Plug & Scan dongle can have three (3) states:

- **Disconnected**: The dongle can accept connections from any Baracoda scanner (see how to connect your Baracoda scanner).
- **Paired and waiting for connection**: The dongle has already been paired to a Baracoda scanner. Just switch on this scanner inside the Bluetooth range of the dongle and the connection will be automatically established.
This mode allows other Baracoda scanners to connect to the Plug & Scan dongle. Scan the “connect” barcode, then the previous Baracoda scanner will disconnect and the new Baracoda scanner will connect to the dongle.
- **Connected**: The Plug & Scan dongle is connected to the Baracoda scanner. Just scan barcodes and the data will be transmitted to the terminal.
This mode allows other Baracoda scanners to connect to the dongle. Scan the “connect” barcode, then the previous Baracoda scanner will disconnect and the new Baracoda scanner will connect to the dongle.

Using the RS232 P&S dongle is quite simple. In three steps, it can be installed and ready to operate:



As shown in the above diagram, once the connection is done, the scanned data is transmitted through the RS232 link. Please note that Baracoda provides a keyboard emulation software which is compatible with the RS232 Plug&Scan solution. Using this, each scanned data will appear on the PC as if it had been typed on the keyboard.

2.3. No data loss mode

The 'No data loss mode' is activated *by default* for all scanners supporting the feature (RoadRunners, BaracodaPencil2, RoadRunners Evolution, D-fly, ScanWear, ToughRunners, DualRunners). When you leave the connection zone, the 'No data loss mode' allows a bufferisation of scanned barcodes. All scans will be automatically uploaded to the host when reconnected.

If your application is unable to handle all of the incoming barcode scans, disable this feature by scanning the 'no data loss mode' barcode. **Your scanner and any future connected scanners will retain this configuration.**

Enable 'no data loss mode' (*)



Disable 'no data loss mode'



Note : This feature is enabled by default.

2.4. Batch mode

The batch mode can be used with scanners supporting batch mode:

- RoadRunners Evolution (CPU firmware version 1.33 and newer)
- RoadRunners (CPU firmware version 3.20 and newer)
- BaracodaPencil2 (CPU firmware version 1.34 and newer)
- DualRunners (CPU firmware version 1.38 and newer)

This functionality is only available for Plug&Scan dongles with firmware version 3.27 and newer (see "Print Firmware Version" section for how to get the firmware version).

NOTE: For an application requiring batch mode feature, please note that the RS232 Plug & Scan forces the settings of the scanner to which it gets connected in the last configuration used by the RS232 dongle. So it's very important before to connect a new scanner using Batch mode (and with datas in its Batch memory) to check that the RS232 Plug & Scan is already configured in Batch mode, and not in Real Time mode. So you have to respect the following process:

- 1) Associate the scanner to the RS232 Plug & Scan **FIRST** (by scanning its CONNECT barcode).
- 2) Configure your scanner in Batch mode **AFTER** (by scanning the configuration barcodes available in this document), and start your work.

The upload process consists of temporarily switching the scanner into Real time with "no data loss mode" ON (all the barcodes or RFID Tag ID in memory will be sent using the no data loss protocol). Then the scanner switches back to batch mode when all the barcodes are properly sent.

How to use with RoadRunners

Enable batch mode



When this mode is set, all the scanners (supporting the functionality) working with the dongle are in batch mode: all scanned data is stored in the flash memory.

The stored barcodes can be discharged by scanning the following barcode:

Upload batch data (only for RoadRunners)



How to use with Pencil2 & RoadRunners Evolution & DualRunners

Enable batch mode



When this mode is set, all the scanners (supporting the functionality) working with the dongle are in batch mode: all scanned data is stored in the flash memory.

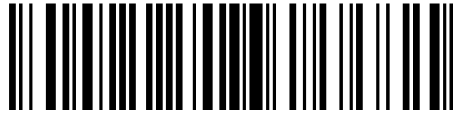
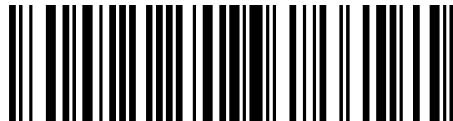
The stored barcodes or TagID can be discharged by scanning the following barcode:

Upload batch data (only for Pencil2, RoadRunners Evolution, DualRunners)



Note: UPLOAD Messages

As keyboard emulation is used, the host application has a limited access to information on the scanner. To answer this, the dongle can use a messages system which can help the host application having a status on the upload process. This mode can be enabled or disabled (default) using the following barcodes:

**Enable upload messages
(for Pencil2 & RoadRunners Evolution)****Disable upload messages (*)
(for Pencil2 & RoadRunners Evolution)**

When this is used, the dongle adds information messages with the incoming data:

Before the upload:

<UPL>: start xxxxx

xxxxx being the number of expected barcodes to come

After the upload, two messages can appear:

<UPL>: transmission OK

This means that the barcodes were correctly transmitted from the scanner to the dongle and thus that they have been erased from the scanner

<UPL>: transmission NOK

This means that an error occurred and has been detected by the dongle during the data upload. This means that the data has not been erased from the scanner.

3. How to connect your Baracoda barcode scanner

How to connect your BaracodaPencil/Pencil2

1. Reset your BaracodaPencil (see BaracodaPencil/Pencil2 User Guide to perform this operation).
2. Plug the dongle into the RS232 COM port of the computer and switch it on.
3. **Do not scan any other barcodes except the 'connect barcode' that is delivered with the dongle.**
4. The LED on the scanner will start double flashing green: you are now connected! (*)
5. Start scanning barcodes.

(*) If the LED on the BaracodaPencil is not double flashing green, this may possibly mean:

- *The BaracodaPencil is low on power. Charge the unit up completely and try again*
- *The BaracodaPencil has not been reset. Reset it and try again*
- *The BaracodaPencil has been programmed from its default status and it is not able to decode the Code 128 symbology. Be aware that the pairing barcode is a code128 and so the BaracodaPencil shall stay in its default mode "Code128 ON"*

By default, the Plug & Scan dongle activates the "No Data Loss Mode". (Please refer to the paragraph 2.3 for additional information)

How to connect your BC2604/BL2604/BLR2604

1. Reset the scanner by taking out and replacing both batteries.
2. Plug the dongle into the RS232 COM port of the computer and switch it on.
3. **Do not scan any other barcodes except the 'connect barcode' that is delivered with the dongle.**
4. You will hear the scanner beeping for 7 times. After these 7 beeps, the LED on the scanner will start double flashing green: you are now paired and connected! (**)
5. Start scanning barcodes.

() If the LED on the BL/BC/BLR2604 is not double flashing a green light, this may possibly mean:**

- *The scanner is low on power. Charge the unit up completely and try again*
- *The scanner has not been reset. Reset it and try again*
- *The scanner has been programmed from its default status and it is not able to decode the Code 128 symbology. Be aware that the pairing barcode is a code128 and so the scanner shall stay in its default mode "Code128 on"*

How to connect your BCM2604-L/BCM2604-F

1. Reset the scanner by taking out and replacing both batteries.
2. If the scanner has not been programmed to read the Code 128 symbology, scan the Code 128 active barcode ("Code 128 on"). The scanner should beep. The LED should remain a single flashing light. Immediately reset the scanner. This will clear the memory buffer and allow the pairing barcode to operate correctly.

Code 128 on

FOR THE BCM2604-L



FOR THE BCM2604-F



3. Plug the dongle into the RS232 COM port of the computer and switch it on.
4. **Do not scan any other barcodes except the 'connect barcode' that is delivered with the dongle.**
5. You will immediately get a "good read" confirmation beep from the scanner. In case you don't get an immediate double beep, simply reset your scanner and try again.
6. The scanner will beep a second time: the LED on the scanner will start double flashing green: you are now paired and connected! (*)
7. Start scanning barcodes. Please note that the Plug & Scan dongle is not able to transmit 2D barcodes with an amount of information bigger than *1080 characters*.

(*) If the LED on the BL/BC/BLR2604 is not double flashing a green light, this may possibly mean:

- *The scanner is low on power. Charge the unit up completely and try again*
- *The scanner has not been reset. Reset it and try again*
- *The scanner has been programmed from its default status and it is not able to decode the Code 128 symbology. Be aware that the pairing barcode is a code128 and so the scanner shall stay in its default mode "Code128 on"*

How to connect your D-Fly

1. Reset the scanner (see D-Fly User Guide to perform this operation).
2. Plug the dongle into the RS232 COM port of the computer and switch it on.
3. **Do not scan any other barcodes except the 'connect barcode' that is delivered with the dongle.**
4. Within 5 seconds (not necessary to rescan), the connection is established. The scanner beeps twice and the LED will change to a double flashing green.
5. Start scanning barcodes.

By default, the Plug & Scan dongle activates the "No Data Loss Mode". (Please refer to the paragraph 2.3 for additional information)

How to connect your RoadRunners/RoadRunners Evolution

1. Reset the scanner (see RoadRunners User Guide to perform this operation).
2. Plug the dongle into the RS232 COM port of the computer and switch it on.
3. **Do not scan any other barcodes except the 'connect barcode' that is delivered with the dongle.**
4. Within 5 seconds (not necessary to rescan), the connection is established. The scanner beeps twice and right LED will change to a double flashing green.
5. Open up the target application (such as Notepad, Excel and Word). Make sure the application can accept data from a keyboard and the active cursor is where you want the barcode information to be placed.
6. Start scanning barcodes.

By default, the Plug & Scan dongle activates the "No Data Loss Mode". (Please refer to the paragraph 2.3 for additional information)

How to connect your ScanWear

1. Reset the scanner (see ScanWear User Guide to perform this operation).
2. Plug the dongle into the RS232 COM port of the computer and switch it on.
3. **Do not scan any other barcodes except the 'connect barcode' that is delivered with the dongle.**
4. Within 5 seconds (not necessary to rescan), the connection is established. The scanner beeps twice and the right LED will change to a double flashing green.
5. Start scanning barcodes.

By default, the Plug & Scan dongle activates the "No Data Loss Mode". (Please refer to the paragraph 2.3 for additional information)

How to connect your ToughRunners

1. Reset the scanner (see ToughRunners User Guide to perform this operation).
2. Plug the dongle into the RS232 COM port of the computer and switch it on.
3. **Do not scan any other barcodes except the 'connect barcode' that is delivered with the dongle.**
4. Within 5 seconds (not necessary to rescan), the connection is established. The scanner beeps twice and the LED will change to a double flashing blue.
5. Start scanning barcodes.

By default, the Plug & Scan dongle activates the "No Data Loss Mode". (Please refer to the paragraph 2.3 for additional information)

How to connect your DualRunners

7. Reset the scanner (see DualRunners User Guide to perform this operation).
8. Plug the dongle into the RS232 COM port of the computer and switch it on.
9. **Do not scan any other barcodes except the 'connect barcode' that is delivered with the dongle.**
10. Within 5 seconds (not necessary to rescan), the connection is established. The scanner beeps twice and right LED will change to a double flashing green.
11. Open up the target application (such as Notepad, Excel and Word). Make sure the application can accept data from a keyboard and the active cursor is where you want the barcode information to be placed.
12. Start scanning barcodes.

By default, the Plug & Scan dongle activates the "No Data Loss Mode". (Please refer to the paragraph 2.3 for additional information)

Note: When you will be connected with the DualRunners, you could scan barcodes and read RFID TAG ID.

4. How to disconnect your Plug & Scan Dongle

There are **3 different ways** to disconnect a scanner from the Plug & Scan dongle.

1. Reading the “disconnect” barcode with the connected barcode scanner. Use this barcode to disconnect your barcode scanner from a Plug and Scan dongle.

Disconnect barcode



2. Send the “disconnect command” (cf. RS232 Plug&Scan Communication protocol) via the RS232 link.
3. Connect another scanner by reading the dongle’s Connect barcode with it (Swap process).

5. Additional features

Prefix

Disable prefix [default]



SOH prefix



STX prefix



Horizontal Tab (HT) prefix



Suffix

Disable suffix [default]



EOT suffix



ETX suffix



Horizontal Tab (HT) suffix



Carriage Return (CR) suffix



Line Feed (LF) suffix



Carriage Return (CR) + Line Feed (LF) suffix



UART Settings

The default settings of the Baracoda Serial dongle are *9600 / 8 / 1 / None*.

Baud Rate selection

9600 bps [default]



38400 bps



115200 bps



19200 bps



57600 bps



Stop bits

1 stop bit [default]



2 stop bits



Parity

None [default]



Odd

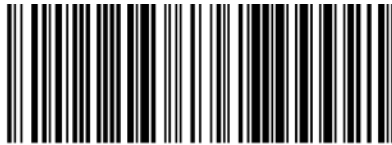
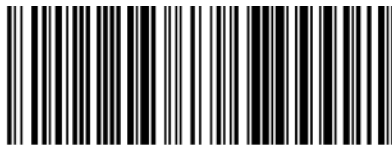


Even



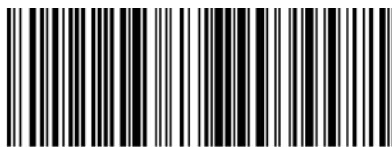
Only for BC2604/BL2604/BLR2604 products**The Number of Beeps for 'good scan'**

Warning: These settings are only possible with BC/BL-2604 scanners. After scanning the desired barcode, disconnect the scanner (reading the "Disconnect barcode"), wait for ten seconds and connect again using the "Connect barcode."

0 beep [default]**1 beep****2 beeps****3 beeps****DISCONNECT**

The Number of Beeps for 'ACK'(in 'no data loss mode')

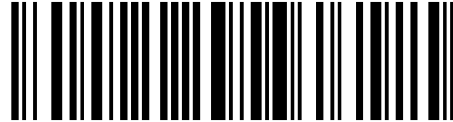
Warning: These settings are only possible with BC/BL-2604 scanners. After scanning the desired barcode, disconnect the scanner (reading the "Disconnect barcode"), wait for ten seconds and connect again using the "Connect barcode."

0 beep**1 beep [default]****2 beeps****3 beeps****DISCONNECT**

Print firmware version

This barcode will display the firmware version of your Plug & Scan dongle:

Print firmware version



Transparent mode

The RS232 Plug&Scan can also provide a “transparent plug&scan” mode (Please refer to the RS232 Plug&Scan dongle’s communication protocol to see how to activate this mode). In this mode, the connection process is the same (simply scan the “connect” barcode in order to get connected) but the dongle will offer larger communication capabilities between the host and the scanner : all data sent by the scanner is directly forwarded by the dongle to the host via the RS232 link. Therefore, it becomes transparent in the communication.



Please note that Baracoda provides software support for applications using this mode. This comes into a library (.dll) file containing all the necessary functions for a developer to simply get to communicate with a Baracoda scanner using the RS232 Transparent Plug&Scan mode.

6. Compatibility

The RS232 Plug & Scan (v3.28) is only compatible with the following Baracoda barcode readers:

- **BaracodaPencil**
Minimum Bluetooth version required 1.5 and minimum Decoder version required 1.5
- **BaracodaPencil2**
All versions ('Batch mode' configurable from decoder v1.34)
- **D-Fly**
All versions
- **RoadRunners (BRR-L, BRR-LA, BRR-F, BRR-Fe, BRR-Fs) :**
All versions ('No data loss mode' configurable from decoder v3.10 & Radio v1.72)
- **RoadRunners Evolution :**
All versions
- **BC/BL/BLR2604 :**
Minimum Bluetooth version required: 1.6 and minimum Decoder version required BT085
- **BCM 2604-L and BCM2604-F :**
All versions
- **ToughRunners**
All versions
- **ScanWear**
All versions
- **DualRunners**
All versions

Limited Warranty.

Manufacturer warrants that the product will be free of defects in material and workmanship for one (1) year from the date of shipment. Manufacturer will, at its option, either repair, replace or refund the purchase price paid by buyer for the defective products.

Such repair, replacement or refund shall be buyer's sole remedy in the event of Manufacturer's breach of this limited warranty. Repaired or replaced parts or product may include new, reconditioned or remanufactured parts and equipment at Manufacturer's option. All costs associated with shipment to Manufacturer for warranty service, including but not limited to freight, duties, insurance and customs fees are buyer's responsibility. Manufacturer will pay the freight costs (duties, insurance, customs and any other fees are buyer's responsibility) associated with the return shipment to buyer. The method of shipment will be at Manufacturer's discretion. Repair or replacement of any parts or equipment does not extend the period of warranty provided for herein. THIS LIMITED WARRANTY IS MANUFACTURER'S ONLY WARRANTY. MANUFACTURER DOES NOT GIVE WARRANTIES OF MERCHANTABILITY OR WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE. To take advantage of this warranty, buyer should contact the seller not the Manufacturer. The warranty set forth herein does not cover and Manufacturer will have no obligations hereunder if any non-conformance is caused in whole or in part by; accident, transportation, neglect, misuse, alteration, modification, or enhancement of the products or incorporation, interfacing, attachment of any feature, program, or device to the Products by a person or entity other than Manufacturer, failure to provide a suitable installation environment, use of the products for other than the specific purpose for which the products are designed or any use of the product not in accordance with the User Guide or other misuse or abuse of the product. The warranty does not cover problems linked to batteries.